Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of the claims in the application.

Listing of Claims:

1. (currently amended) In a wireless system, a method for determining whether a received frame is an erasure, a discontinuous (DTX) mode frame or a continuous (CONT) mode frame, comprising:

a) decoding said frame to obtain a log likelihood ratio (LLR) $\Lambda(n)$, reflecting the likelihood that a detected symbol is a logic "1" or a logic"0";

b) computing a mean absolute LLR value *m* for said received frame;

c) calculating a CRC value for said received frame; and

d) determining whether said received frame is an erasure, a DTX mode frame or a CONT mode frame based on said CRC value and said mean absolute LLR value.

2.(original) The method of claim 1, wherein step b) comprises determining the absolute value $|\Lambda(n)|$ for all LLR' obtained for said frame, and calculating the mean value *m* of said absolute LLRs, using the relationship:

$$m = \frac{1}{N+M}\sum_{n=1}^{N+M}|\Lambda(n)|$$

where N is the number of data bits and M is the number of CRC bits in said received frame.

3.(original) The method of claim 1, wherein said step c) comprises:

making a hard decision *d(n)* on each said Λ(n), whereby a logic"1" is declared whenever said Λ(n) is less than 0, and a logic "0" otherwise; and

calculating said CRC value based on said hard decisions *d(n)*.

4.(original) The method of claim 1, wherein said step d) comprises:

establishing a threshold *T* for said mean absolute LLR value *m*;

declaring said received frame as a CONT frame if said CRC value indicates a successfully recovered frame, and *m>T*;

declaring said received frame as a DTX frame if *m<T* ; and

declaring said received frame as an erasure if said CRC value indicates a failed frame, and *m>T*.

5.(original) A method of detecting the transmission rate of a voice frame in a wireless system comprising:

a) decoding said voice frame for each of a plurality *i* of possible transmission rates *j(i)*;

b) for each said *j(i)* rate, computing a *CRC(i)* value and a mean absolute LLR value *m(i)*; and

c) determining the transmission rate based on said mean absolute LLR value for said voice frame.

6.(original) The method of claim 5, wherein said step c) comprises determining the maximum of all said values *m(i)*; verifying if the CRC(i) value corresponding to said maximum indicates a successful reception of said voice frame; and declaring the rate corresponding to said maximum as said transmission rate.

7.(original) The method of claim 6, further comprising erasing said voice frame if the CRC(i) value corresponding to said maximum indicates a failed reception of said voice frame.

8. (original)The method of claim 5, wherein said transmission rates are a full rate corresponding to full voice activity, an 8^{th} rate corresponding to silence, a half rate, and a quarter rate.

9.(currently amended) A receiver for a wireless communication system for recovering information transmitted in a frame, comprising:

means for decoding a received frame to obtain a log likelihood ratio (LLR) $\Lambda(n)$ value reflecting the likelihood that a detected symbol *s(n)* is a logic "1" or a logic"0";

means for computing a mean absolute LLR value *m* for said received frame;

means for calculating a CRC value for said received frame; and

means for determining whether said received frame is an erasure, a discontinuous (DTX) mode frame or a continuous (CONT) mode frame based on the CRC value and said mean absolute LLR value.

10.(original) The receiver of claim 9, wherein said frame is a data frame and said means for decoding comprises a turbo decoder.

11.(original) The receiver of claim 10, wherein said means for computing a mean absolute LLR value comprises means for determining the absolute value $|\Lambda(n)|$ for all LLRs obtained for said frame, and means for calculating the mean value of said absolute value $|\Lambda(n)|$.

12.(original) The receiver of claim 10, wherein said means for calculating a CRC value comprises:

a hard decision unit for converting each $\Lambda(n)$ value that is less than 0 into a logic decision "1" and converting any other $\Lambda(n)$ value into a logic decision "0"; and

a CRC unit for calculating a CRC value based on said logic decisions.

13.(original) The receiver of claim 11, wherein said means for calculating the mean value has a transfer function:

$$m = \frac{1}{N+M}\sum_{n=1}^{N+M}|\Lambda(n)|$$

where N is the number of data bits, and M is the number of CRC bits in said received frame.

14.(original) The receiver of claim 9, wherein said frame is a voice frame and said means for decoding comprises an SISO decoder.

15.(original) The receiver of claim 14, wherein said means for decoding comprises:

a de-interleaver for separating said voice frame from a repeat variant of said voice frame;

decoding means operating at *i* different rates to provide a respective *CRC(i)* value and a respective mean absolute LLR value *m(i)* for each said rate;

a decision logic unit for receiving said *CRC(i)* values and said *m(i)* values and determining the rate of said voice frame; and

means for establishing operation of said decoding means at said rate.